Tri-Service Medical Information Symposium 2012

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Enterprise Services Modernization Program Overview

February 17-19, 2012

Learning Objectives

- Describe the ESM approach and architecture
- Explain the benefits of ESM
- Discuss the deployment schedule for ESM Increment 1
- Discuss the way ahead for ESM Increment 2

What is ESM?

- Enterprise Services Modernization (ESM) is a strategy to transform the IT infrastructure supporting Navy Medicine clinical care:
  - The replacement of aging infrastructure to increase effectiveness, and
  - The deployment of new services to meet evolving business needs.

What is ESM?

- ESM is an overarching IM/IT Program designed to resolve many critical business challenges:
  - Mis-matched functional and technical requirements
  - Slow speed in inserting new capabilities into the Enterprise
  - Lack of standardization and high Provider burden using IT programs
  - Difficult to assure trust in security of clinical data and platforms
  - Stove-piped systems architecture prevents data sharing
  - Unreliable business services due to aging infrastructure

ESM Vision Diagram

BUSINESS CHALLENGES to Solve with ESM:

* Requirements Mismatch – disconnects between functional and technical requirements

* Slow Speed-to-Capability – difficulty in rapid innovation and insertion of new capabilities

* Provider Efficiency – users hampered by multiple logins and lack of mobility

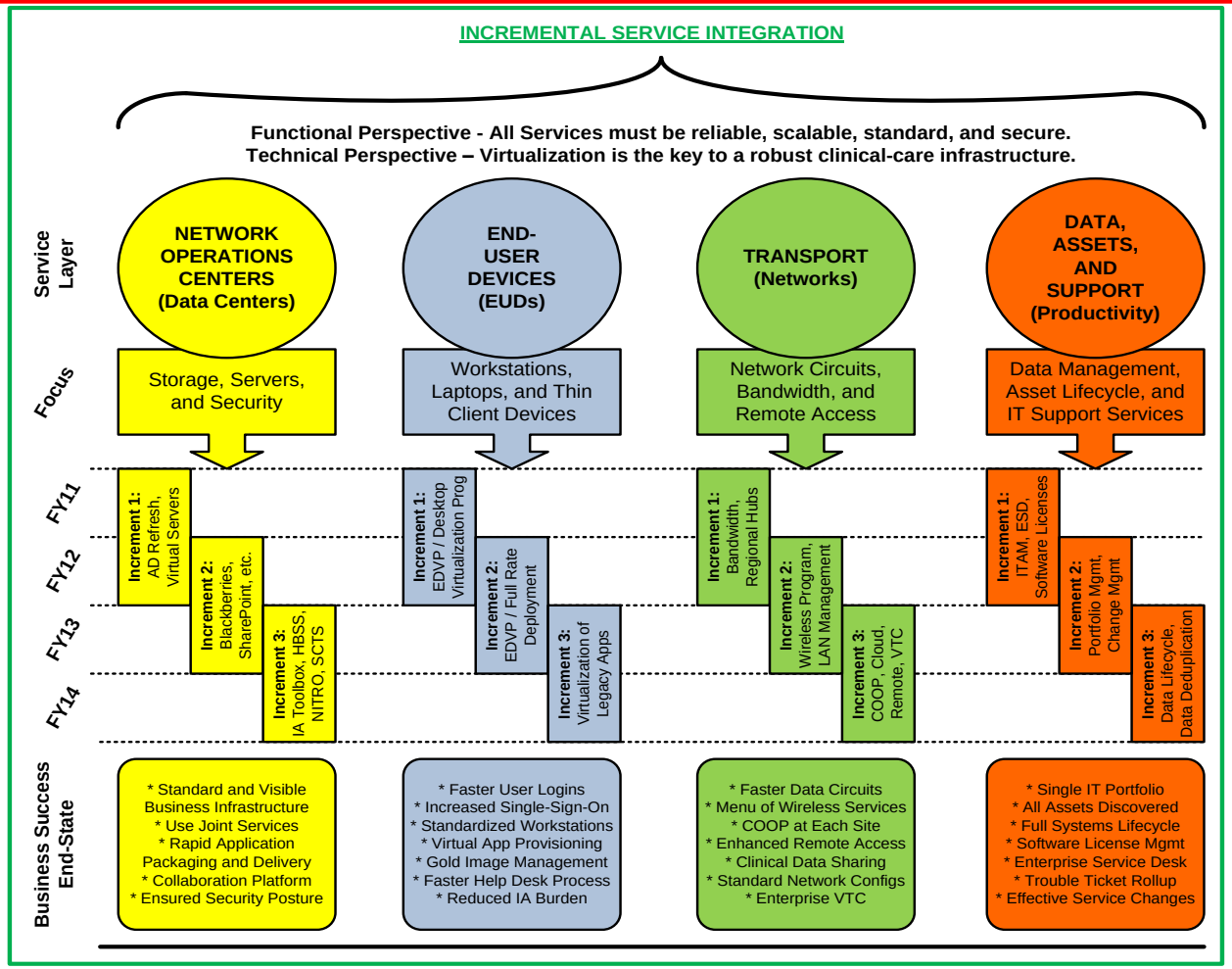
* Security Not Assured – trust of critical data and systems is difficult to ensure

* Lack of Standardization – increases user learning curve, procurement costs, and break-fix cycle time

* Stove-Piped Systems – clinical data and functions not shared between systems, increased support costs

* Aging Infrastructure – unreliable and unstable business services

* Non-Modular Architecture – refresh and sunset processes are cumbersome and require high level of effort



ESM Benefits

- Supports how DoD delivers healthcare
- Align capability to business requirement
- Improved workflow for users
- Faster introduction of new services
- Increased reliability
- Reduced support burden
- COOP capability

ESM Benefits

- Supports how DoD delivers healthcare
  - Do we treat Sailors different from Soldiers?
  - Our current infrastructure segregates the services medical components
  - Our beneficiaries can be seen at any service Military Treatment Facility
  - ESM supports the integrated healthcare model
  - Initial steps toward purple by standardizing and commoditizing core services

ESM Benefits

- Align capability to business requirement
  - ESM collaborates with senior leadership, IT staff, and users to define the business problem
  - The business problem is aligned with the benefits that solving the problem can achieve
  - Quantify the benefit that can be achieved
  - Develop best value capability that can satisfy the customer's business problem
  - Detailed Requirement Traceability Matrix (RTM)

ESM Benefits

- Improved workflow for users
  - Improve end user login times
  - Increase mobility for providers
  - Business network traffic prioritized (clinical flows before social networking)
  - “Follow me desktop” or “desktop on a CAC”

ESM Benefits

- Faster introduction of new services
  - Computing, storage, and other network resources are available on demand
  - Significant reduction in procurement times
  - New capabilities available when they are needed instead of 9-12 months
  - Commoditization of network infrastructure
    - Infrastructure as a Service (IaaS)

ESM Benefits

- Increased reliability
  - Replacement of aging hardware
  - ESM provides a single Exchange environment
    - Served from two Enterprise data centers
    - Fully redundant and sized to handle entire enterprise
  - Circuits right-sized, resilient, and redundant
  - Improved security monitoring and management
  - Core Technology Refresh Project

ESM Benefits

- Reduced support burden
  - Changes to end user systems (operating systems or applications) completed by updating a single image with no touch labor
  - Server utilization is optimized by consolidation and reduces hardware requirements
  - Resource sharing across sites through standardization and virtualization

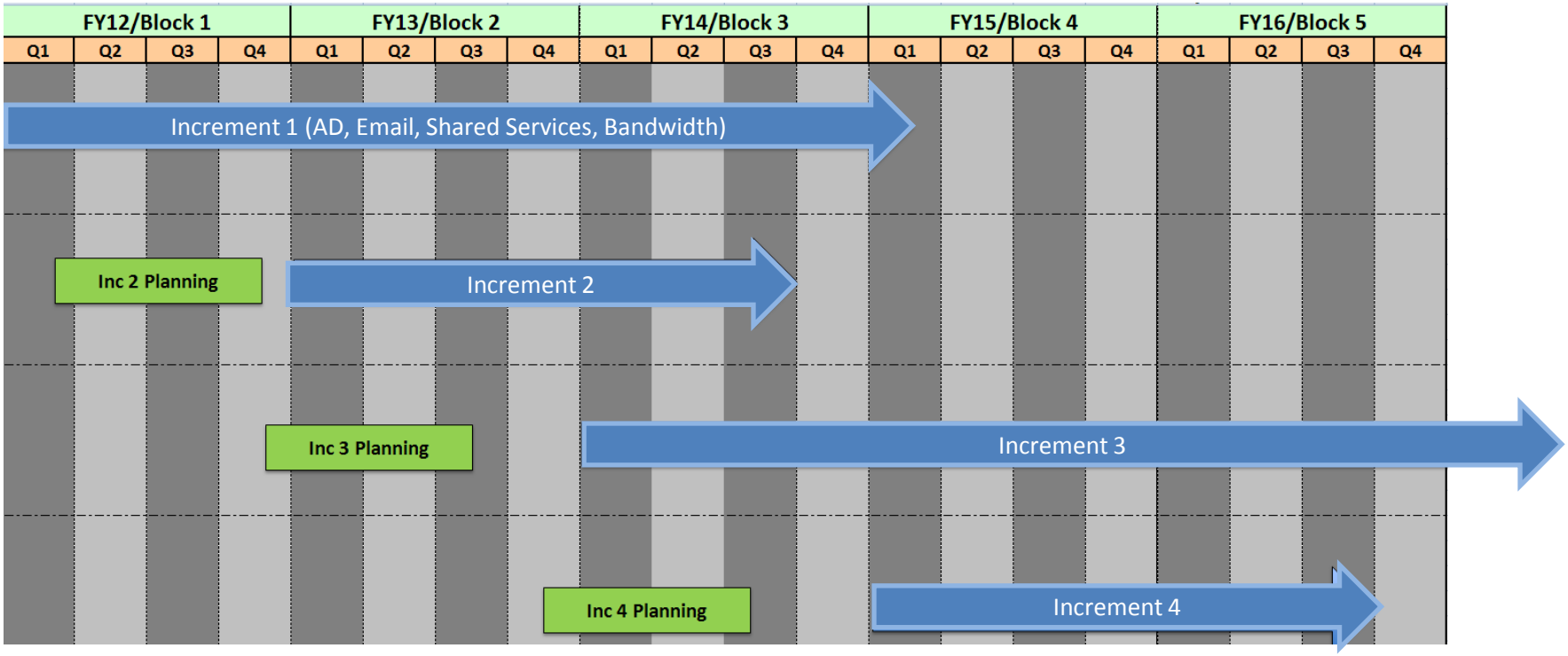
ESM Benefits

- COOP capability
  - What if your site lost your email server?
    - Data centers replicate all enterprise email
  - Is the data on your computer's disk backed up?
    - Virtual desktop stores all data centrally and back up
  - What if a construction crew severed your fiber?
    - Bandwidth modernization provides redundancy
  - Reduce and/or eliminate single points of failure

ESM Today

- Increment 1 capabilities have been defined, analyzed, and engineered. Deployment planning is currently underway
- Increment 2 requirements gathering visits were conducted last week, visited multiple MTFs and support command sites

ESM Increment Approach



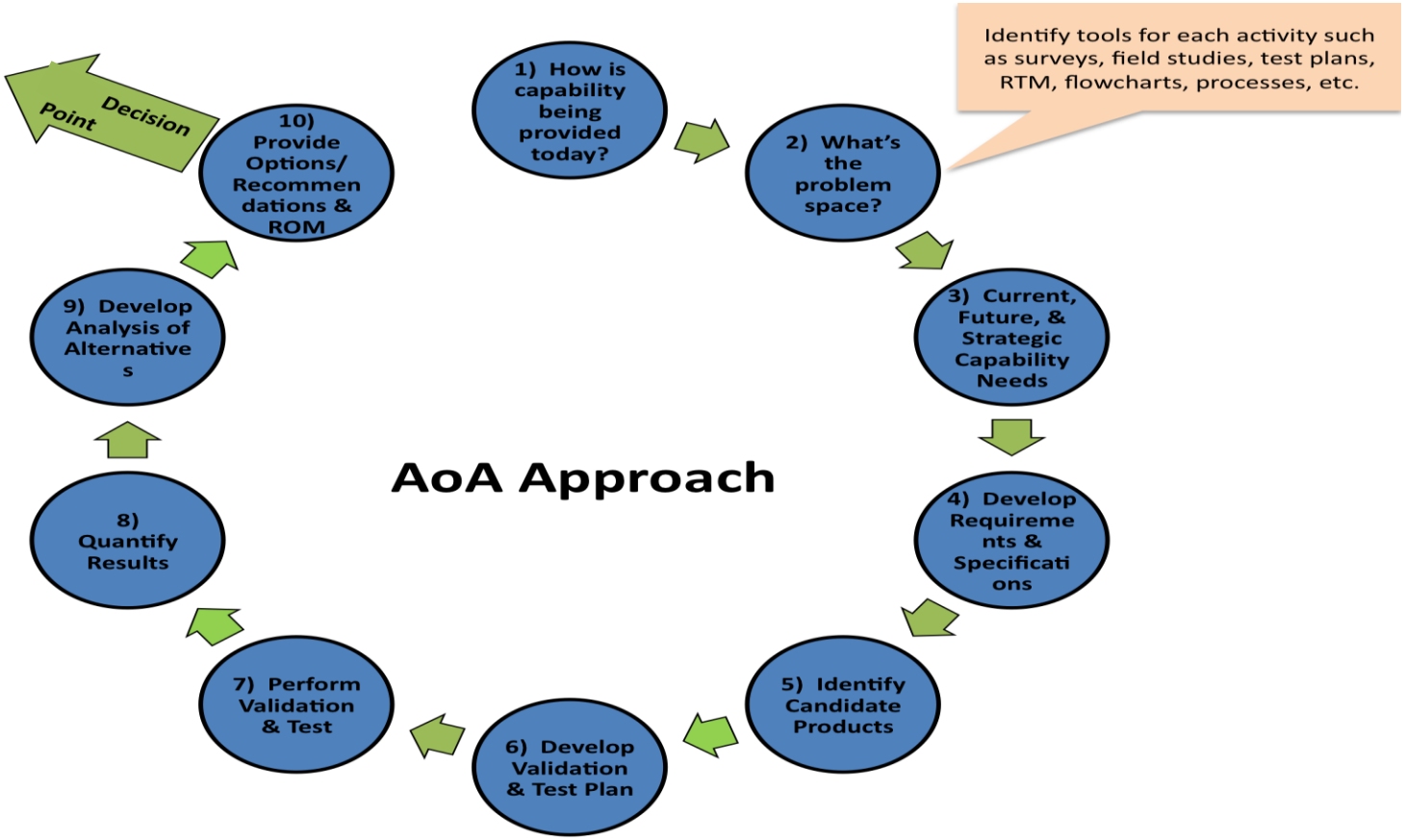
ESM Requirements Approach

- Business requirements gathered from corporate knowledge, site visits, and user feedback
- Business requirements translated into design requirements
- Reviewed and approved by leadership
- Used as a basis for Analysis of Alternatives

ESM Analysis of Alternatives

- Detailed analysis to determine course of action and support funding and acquisition processes
- Conducted with the best information available under time and budget constraints
- Conducted in two parts
  - Micro - technological solutions (product and vendors)
  - Macro - service delivery (architecture design)
- Results include product recommendations, deployment recommendations, and cost estimate

ESM AoA Approach



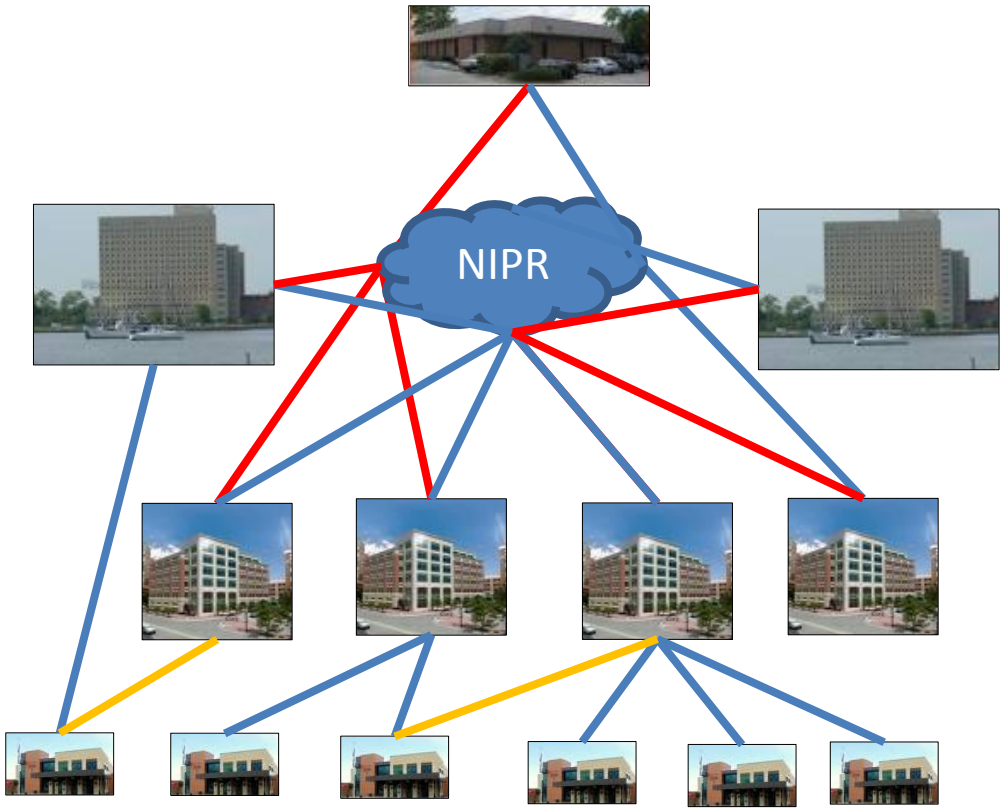
ESM Increment 1 Capabilities

- Bandwidth modernization
- Enterprise Desktop Virtualization (EDVP)
    - Low Rate Production
- Shared services architecture
- Core Technology Refresh
- IT Asset Management (ITAM)
- Security Information and Event Management (SIEM)

Inc 1 was approved by MCB 30 June 2011

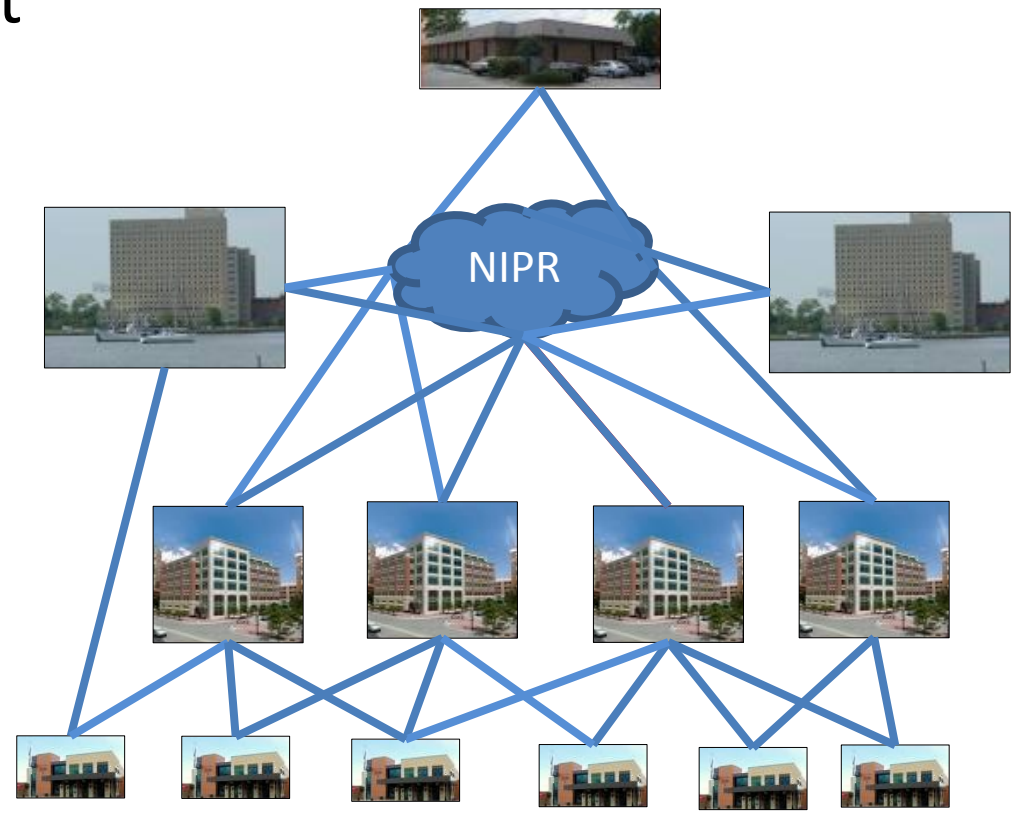
Bandwidth Modernization

- Currently we have multiple networks supporting NAVMED
  - Navy
  - MCiS
  - Local
- Goal – a single network provider for NAVMED, to maximize efficiency and accountability



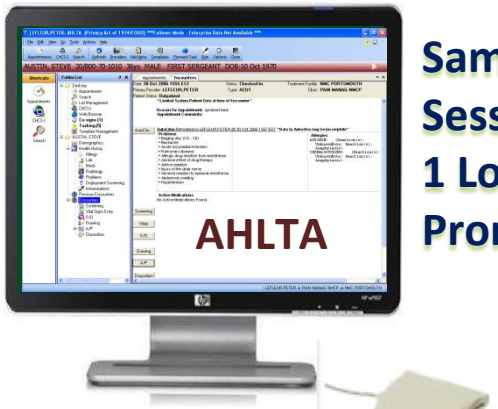
Bandwidth Modernization

- Right-sized and resilient network
- Monitored
- Capacity managed
- MCiS as the sole WAN provider for all NAVMED circuits
- Migration to NPS 2.0



Desktop Virtualization (user)

Desktop on a CAC



Same Session, 1 Login Prompt

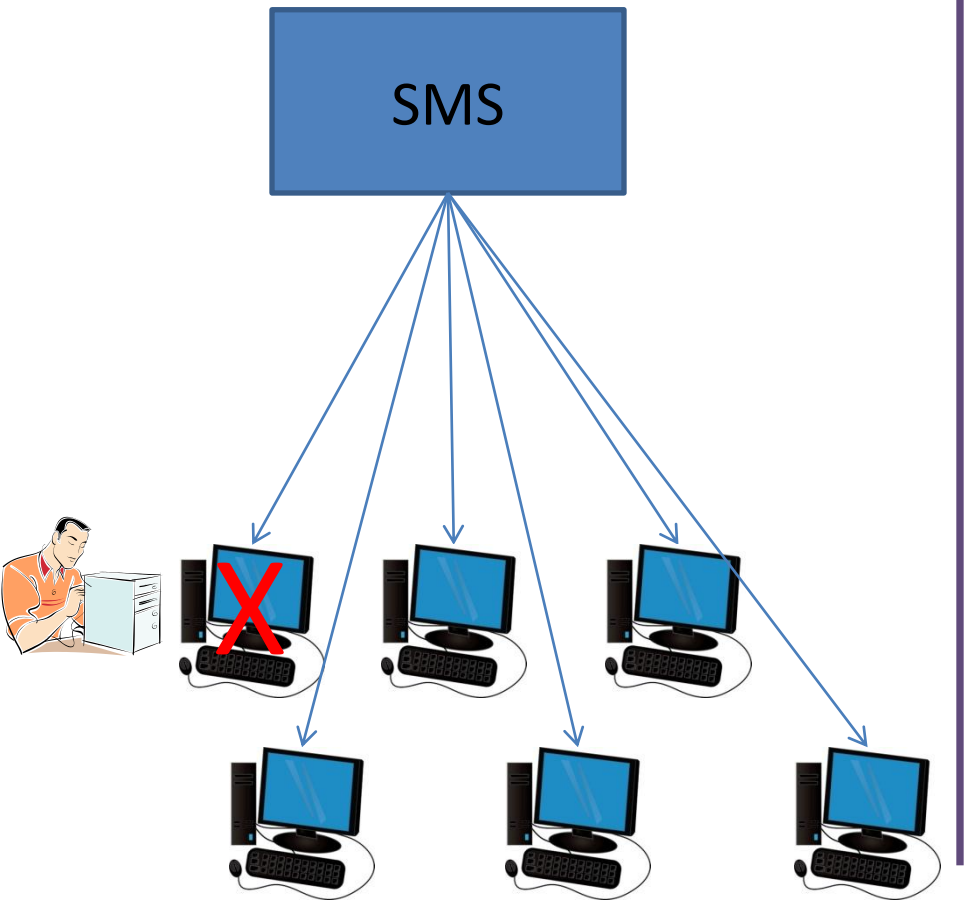
Exam Room 1

More time with my doc!

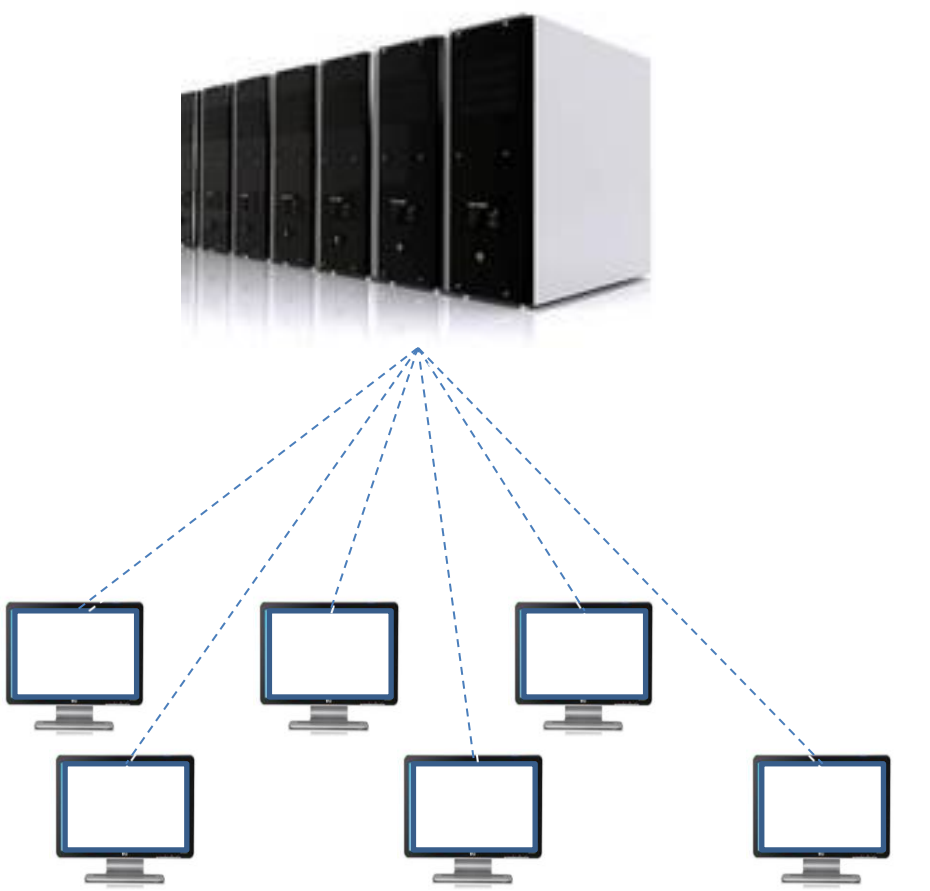
Exam Room 2

Desktop Virtualization (IT)

Current



Future



Desktop Virtualization

- Your desktop is kept on a server
- Access your desktop from anywhere
- Data stored centrally and backed up
- Maintenance-free desktop appliances
- Simplified patching and app upgrades
- Longer end user device lifecycle
- Reduce IT touch labor for desktops
- Improve operational efficiencies

Shared Services Architecture

- "Infrastructure-as-a-Service"
- Standardized shared computing and storage
  - Increased utilization rates
- Resource pools are easily managed
  - Easily provision new server or storage
  - Easily move a server or storage
- COOP capability within and across sites
  - 2 tier 1 sites (data centers)
  - 21 MTF sites
- Consolidation reduces cost to enterprise

Core Technology Refresh

- Automates common tasks
- Simplifies management, updating, and patching
- New group policy objects to better manage users, computers, and other active directory objects
- Improved performance and reliability monitoring tools
- Improve operational efficiencies for enterprise and site network administrators

Core Technology Refresh Components

- Hardware upgrade
  - Computing
    - Server Virtualization
  - Storage
  - Monitoring and Management
- Directory Services upgrade and consolidation
- Email upgrade and consolidation

Directory Services

- Windows Server Active Directory
- Windows Server 2008
- Active Directory consolidation
  - 21 MTFs versus 88 today
  - 2 Tier 1 data centers
    - Aurora, CO
    - San Antonio, TX

Directory Services

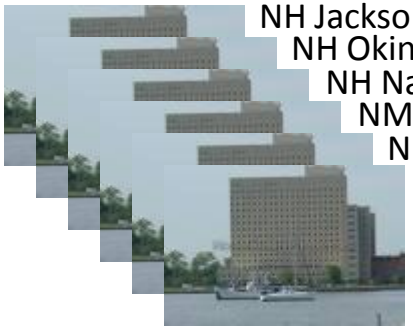
Tier 1

Email

TMA Aurora

MESOC San Antonio

Tier 2



NH Jacksonville
NH Okinawa
NH Naples
NMC San Diego
NMC Portsmouth
NNMC Bethesda

Tier 3

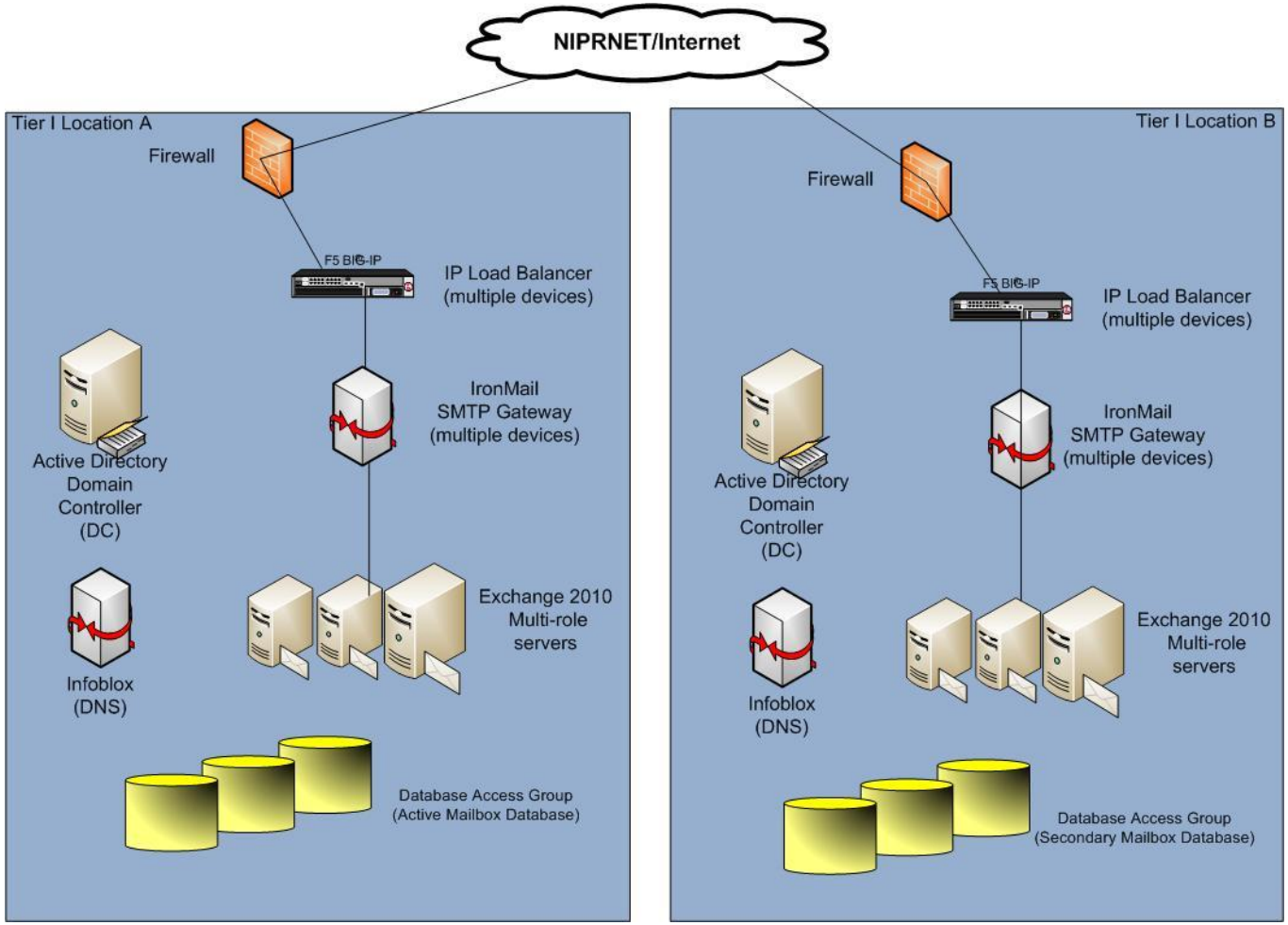
NH Beaufort
NHC Corpus Christi
NH Pensacola
NH Guantanamo Bay
NH Sigonella
NH Rota
NH Guam
NH Yokosuka

NH Camp Pendleton
NH Great Lakes
NH New England
NH Camp Lejeune
NH Bremerton
NHC Hawaii
NH Lemoore

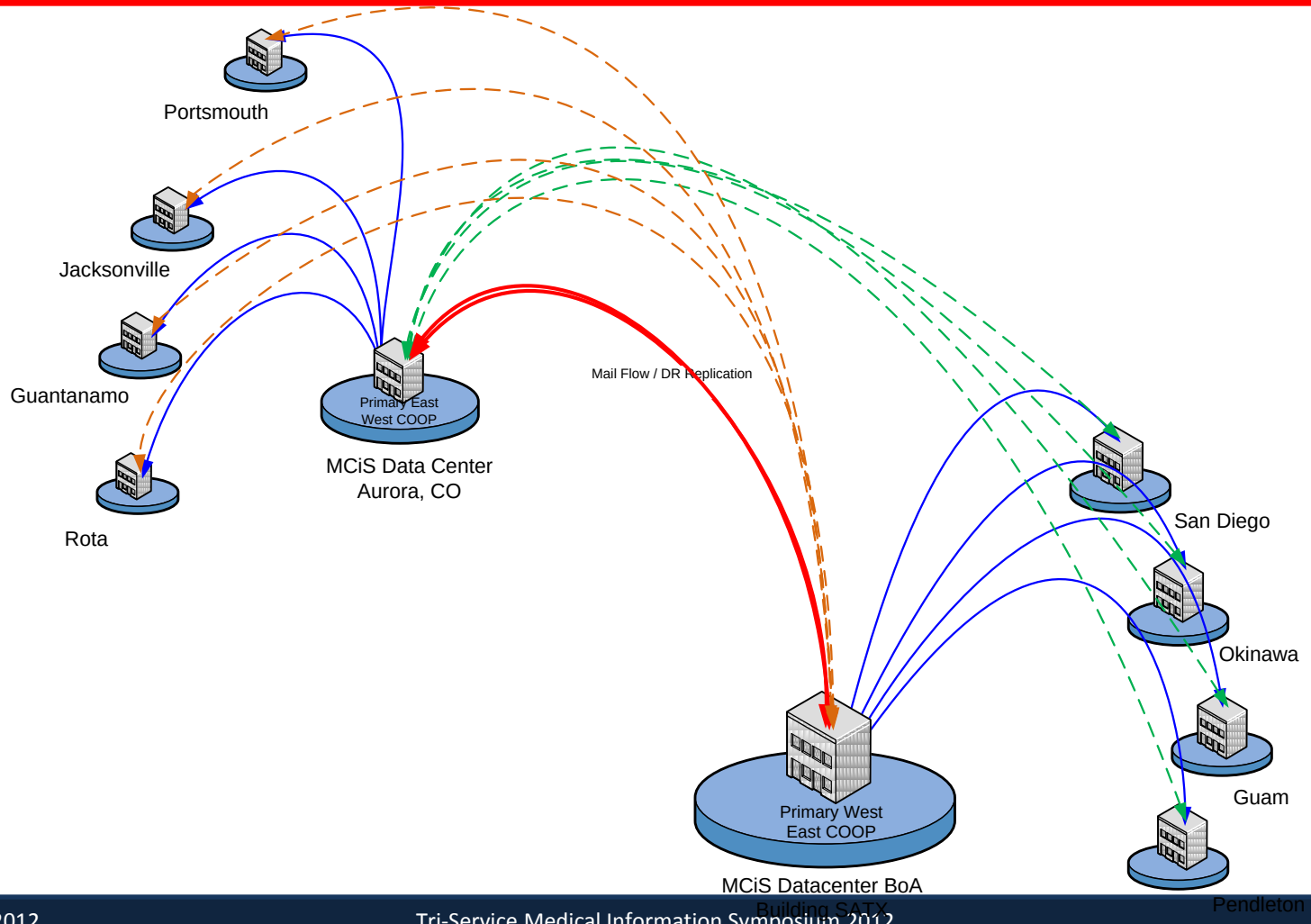
Email Upgrade and Consolidation

- Consolidate to 2 sites versus 21 today
- Email replicated at Tier 1 data centers
  - Aurora, CO
  - San Antonio, TX
- Eliminate redundant infrastructure
- Improve functionality (Exchange Server 2010)
- Enhance management of policies and practices
- Improve efficiency of site IT staff

Email Upgrade and Consolidation



Email Upgrade and Consolidation



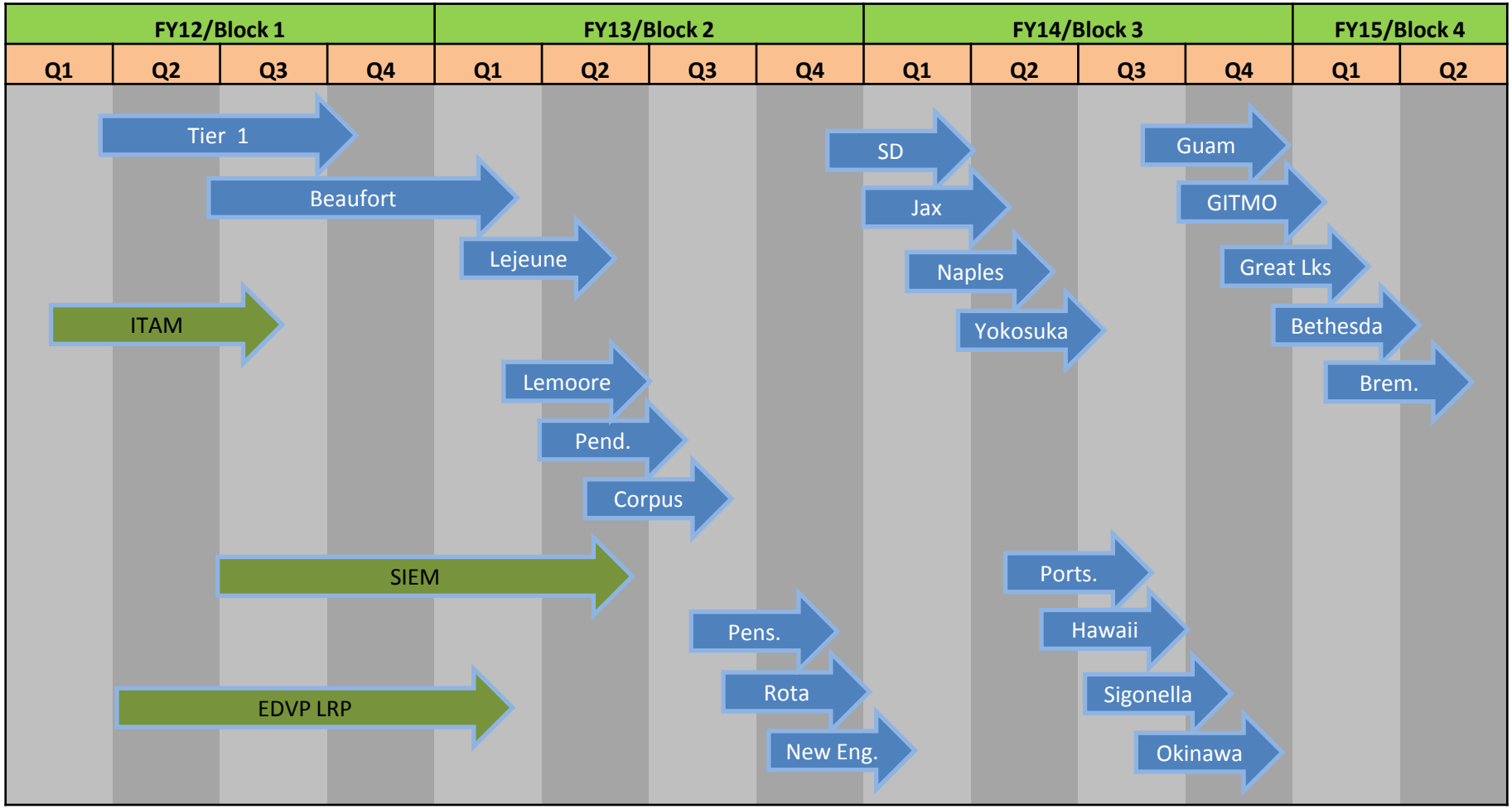
IT Asset Management

- Automated discovery of assets
- Asset information for decision support
- Software License Management
- Improve management of resources
- Improve compliance with policy

SIEM

- Network behavior anomaly detection
- Automates security event correlation metrics
- Security event reporting and measurement
- Built in HIPAA compliance reporting
- Complete deployment of SIEM solution to remainder of enterprise

Increment 1 Deployment Schedule



Increment 1 Deployment

- Site order was selected based on various readiness criteria in collaboration with RISOs
  - Bandwidth readiness
  - Proximity to technical resources
  - Current health of enclave
  - Current initiatives (Great Lakes, Bethesda)

Increment 1 Deployment Update

- Initial procurements have begun
- Tier 1 sites will be MCiS data centers
  - San Antonio, TX
  - Aurora, CO
- ITAM spiral 1 deployment to NH Beaufort
- SIEM project will complete deployment of Nitro to remainder of sites
- EDVP LRP deployed to 150 users at NMC Portsmouth

Increment 2 Update

- Site visits to gather requirements have been completed
- Navy Medicine East
  - NH Beaufort
  - NH Jacksonville
  - NH Pensacola
- Navy Medicine West
  - NH Bremerton
  - NH Oak Harbor
  - Aurora, CO
- Navy Medicine Support Command
  - NDSL Jacksonville
  - NMOTC Pensacola

Increment 2 Requirements Gathering

- Some preliminary findings
  - Enterprise wide collaborations tools
  - User mobility (providers and business customers)
  - Desktop standardization
  - System segregation

Increment 2 Requirements Next Steps

- Analyze data from sites
- Identify and quantify business benefits
- Develop business case for capabilities
- Complete analysis of alternatives
- Obtain approval and funding via governance
- Procure and deploy solutions

ESM Summary

- Navy Medicine Enterprise Services Modernization Program is a programmatic approach to designing and deploying IT services to support the business requirements of Navy Medicine.

- Utilize quantitative and systematic processes to define the customer requirements and provide for the best value to the Navy Medicine Enterprise.

- It is a continuous management of IT hardware, software, and infrastructure to ensure Navy Medicine is positioned to maximize the return on investment by the efficient delivery of clinical care to all of our DoD beneficiaries.

ESM Next Steps

- Continue deployment of Increment 1 capabilities, completion expected Feb 2015
- Increment 2 requirements will be used to define the next set of capabilities to begin work in FY13
- Continue to define potential future capabilities

ESM Takeaways for CIOs

- Work through CCB to address current operational challenges prior to ESM deployment
- Consider how we can leverage the shared services architecture
- Communicate new requirements to your RISO or through governance
- Continue to innovate in support of healthcare delivery
- Work toward solutions that benefit the entire enterprise
- Work toward joint solutions in support of the joint medical mission

Questions

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